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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/892,895	06/28/2001	Hiromichi Hayashi	010845	1586

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DICUS, TAMRA

ART UNIT	PAPER NUMBER
1774	10

DATE MAILED: 07/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/892,895	HAYASHI ET AL.
	Examiner Tamra L. Dicus	Art Unit 1774

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 26 June 2003.

2a) This action is FINAL.      2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-36 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-36 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some \* c) None of:

- Certified copies of the priority documents have been received.
- Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
- Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

1) Notice of References Cited (PTO-892)      4) Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)      5) Notice of Informal Patent Application (PTO-152)

3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_      6) Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Amendment*

This Office Action is in response to the Response received 6-26-03. Applicant is mistaken as to the contention that there was only one amendment present in the prior response received (paper no. 7). There are several amendments included in the claims and new claims were added which is therefore proper to necessitate finality. However, since a new reference was cited over claims that have never been amended, finality is withdrawn and the argument is moot.

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-12, 15-21, 23-27, 28-36 are rejected under 35 U.S.C. 102(b) as being anticipated over USPN 3,956,558 to Blanco et al.

Blanco teaches a decal for coating ceramic/glass articles. The ceramic/glass article has a vitreous surface (glaze layer) comprising paper backing sheet with a water-soluble gum/adhesive layer adhered to a design/pigment layer (coloring material) comprising metal oxides and inorganic pigment (glass flux) in the form of a pattern printed, an intermediate protective glass layer over the design layer and adhered to the ceramic glazed ware (glazing layer on a ceramic substrate). See col. 1, lines 17-35, lines 55-67, col. 2, lines 1-20, col. 3, lines 1-41, col. 4, lines 24-68 and col. 9, lines 13-17. The glass layer and design layer is made of a glass frit/flux, see col. 6, 7, and 8. Blanco explains that a coloring/design layer may be mixed with the pigment

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and glass frit to fuse into the glass layer, becoming part of a pattern at col. 2, lines 1-6 and col. 8, lines 35-61. While Blanco does not expressly state the pattern printed is in a preset position, since Blanco states the design is applied to and printed in a pattern on a ceramic substrate, the phrases are equivalent.

Glass transition temperatures of glass and glass flux are inherent features since they depend on the material used. Applicant uses the same material as the reference teaches so the glass transition temperatures would be expected to be the same. If the glass and glass flux are the same, the transition temperature of the flux would be expected to be 75 degrees C higher than that of the glass, absent any evidence to the contrary.

Blanco states the glass thicknesses of claims 3, 4, 15, 16, 23, 24, 29, 30, 34, and 35 for glass may be from 6 to 28 microns, meeting Applicant's claimed ranges. See col. 7, lines 30-35.

Regarding the thickness of the decoration layer of claims 2, 21, and 28, Blanco states the glass coating thickness to the design layer thickness ratio is 1:1 to 3:1/2:1 to at col. 7, lines 30-36, meeting Applicant's claimed ranges. See further col. 8, lines 49-55. Blanco is silent to teaching the "as-fired state", however, this is a process limitation in a product claim, process notwithstanding. See MPEP 2113.

The glost processing temperature at which the article was fired is of no consequence since the feature represents a process limitation. Moreover, the experimental modification of this prior art in order to ascertain optimum operating conditions fails to render Applicant's claims patentable in the absence of unexpected results. *In re Aller*, 105 USPQ 233.

The limitation "in-glaze coloring/decoration" is a process limitation in a product claim. Product-by-process claims are not limited to the manipulations of the recited steps, only the

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structure implied by the steps. Patentability of an article depends on the article itself and not the method used to produce it (see MPEP 2113). Furthermore, the invention defined by a product-by-process invention is a product NOT a process. *In re Bridgeford*, 357 F. 2d 679. It is the patentability of the product claimed and NOT of the recited process steps which must be established. *In re Brown*, 459 F. 2d 531. Moreover, the glass frit of Blanco is taught by stating the glass will fuse and become part of the pattern itself at col. 2, lines 3-6, which is a functional equivalent to "in-glaze decoration".

3. Claims 13-14 and 22, are rejected under 35 U.S.C. 103(a) as being unpatentable

over USPN 3,956,558 to Blanco et al. in view of USPN 4,892,847 to Reinherz.

The teachings Blanco are relied upon as above.

Regarding claim 13, while Blanco does teach a glass thickness between 6 and 28 microns at col. 7, line 32, Blanco does not teach the thickness of 50 to 200 microns. However, it would have been obvious to one of ordinary skill in the art to produce a thickness of 50 to 200 microns, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272. The thickness effects the protection functionality. The thicker the glass, the higher the protection. See col. 2, lines 40-48.

Regarding claims 14 and 22, Blanco states lead is toxic and may not be included in ceramic articles since it is poisonous upon intake at col. 3, lines 10-24, and if included, Blanco designs the structure so that glass acts as the barrier at will not allow lead to leave the design/color layer. Moreover, Blanco states titanium dioxide by itself may be used by itself in a glass flux (see col. 5, lines 2-4). Therefore it would have been obvious to one of ordinary skill in the art to modify the decorative decal of Blanco to exclude lead since lead is toxic and poisonous

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as taught by Blanco at col. 3, lines 10-24. Additionally, Reinherz teaches a lead-free glass composition (glass frit/flux) for porcelain/ceramic glazes having softening point (glass transition) temperatures between 500 to 650 degrees C, various weight compositions of the same components, and firing temperatures up to 605 degrees C. Hence it would also have been obvious to one of ordinary skill in the art to modify the ceramic decal of Blanco to exclude lead since Reinherz teaches since including lead has adverse toxicological effects and have been prohibited and restricted from using in a glass frit composition as taught at col. 2, lines 1-9.

***Response to Arguments***

Applicant contends Blanco does not teach an intermediate glass layer below a design layer. Applicant simply claims an intermediate glass layer between a glazing layer and raise color material, which is taught by Blanco. Blanco teaches glass layers applied to design layers at col. 3, lines 25-26, and col. 4, lines 42-46. Therefore, Blanco is still used in the rejection.

Applicant's contentions toward the decal of Blanco proceeding with a wetting layer does not in any way teach away from the invention.

Regarding Applicant's belief that Blanco does not teach in-glazing process, the Applicant has not provided a persuasive argument. Moreover, the glass frit of Blanco is taught by stating the glass will fuse and become part of the pattern itself at col. 2, lines 3-6, which is a functional equivalent to "in-glaze decoration". Therefore, this argument is moot.

Regarding the lack of teaching claim 13 to the thickness requirement, the rejection has been modified and the argument is moot.

Applicant further contends that Reinherz is not suitable, stating that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by

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combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Reinherz is simply added to further teach the lack of lead in a glass frit is known, because as Blanco already teaches at col. 3, lines 14-25, lead is toxic.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamra L. Dicus whose telephone number is (703) 305-3809. The examiner can normally be reached on Monday-Friday, 7:00-4:30 p.m., alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on (703) 308-0449. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-8329 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Tamra L. Dicus  
Examiner  
Art Unit 1774

July 16, 2003



**B. HAMILTON HESS  
PRIMARY EXAMINER**